UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,571	12/02/2005	Thimothy W Downey	A34649PCTUSA(065855.0333)	8420

21003   7590   05/20/2009
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EXAMINER
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ART UNIT	PAPER NUMBER
3623	

NOTIFICATION DATE	DELIVERY MODE
05/20/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/518,571	DOWNEY ET AL.
	Examiner	Art Unit	
	JOHN ZELANO	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 February 2009*.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-23* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

Status: This Final Office Action is in response to Application No.10/518,571 Amendment to the Claims filed on February 12, 2009.

Claims 1-18 were rejected in the first Non-Final Office Action.

Claims 1 and 4 are currently amended.

Claims 2, 3, and 5-18 remain as originally submitted.

Claims 19-23 are newly submitted.

Claims 1-23 are currently pending.

Examiner withdraws the rejections of claims 1-9 under 35 USC § 101 in response to the submitted amendments.

Examiner will reject newly submitted claims 19-23 under 35 USC § 112.

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully the entire reference as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

For the purposes of examination, it is assumed that merchants can be readily substituted for salespeople or a sales group as long as consumer sales information is available to the system performing the method of marketing analysis i.e. the

salesperson would perform similar marketing functions to a merchant in order to increase business and revenue. Merchants typically employ on-site salespeople and act as independent sales agents since they advertise and sell goods and services. In this examination, merchant segments which define marketing territories are equivalent to sales territories.

Response to Arguments

35 USC § 101 Claim Rejections

Claim 1 has been amended to recite "one or more processors performing the steps of" which creates the tie of the essential method steps to a machine. As such, the rejections of this claim and dependent claims 2-9 have been withdrawn.

35 USC § 103 Claim Rejections

Applicant's arguments filed on February 12, 2009 have been fully considered but they are not persuasive. Applicant argues that the cited reference, U.S. Patent 7,165,037 B2 to Lazarus et al., (hereinafter, Lazarus) does not teach a claim limitation of independent claims 1, 10, and 19 stated by the Applicant as:

> **"Performing A Recursive Partitioning Analysis On Said Summarized Market Data To Thereby Partition Said Summarized Market Data Into A Plurality Of Nodes Which For Identifying Significant Segmentation Variables".**

The Examiner respectfully disagrees with Applicant's argument. The primary

reference, Lazarus is a general purpose marketing and segmentation algorithm which can be used to target specific populations of consumers that have shown a prior sales history for particular merchants or merchant segments. As stated below, the method receives its input from one to a plurality of media sources, the exact number of sources being specified by the user of the system. The information can be obtained from a variety of different sources such as bank account information, credit card databases or merchant records. Demographic data usually accompanies the financial data.

> The data preprocessing module 402 (DPM) **does initial processing of consumer data received from a source of consumer accounts and transactions, such as a credit card issuer, in preparation for creating the merchant vectors, consumer vectors, and merchant segment predictive models.** DPM 402 is used in both production and training modes. (In this disclosure, the terms "consumer," "customer," and "account holder" are used interchangeably). (Lazarus, 17:4-12)

The numerous databases provided by the user, either as few as one or a plurality of databases are used to generate a master file of information by merchant name and type, consumer name, transaction types, and geography (i.e. zip codes).

> The DPM 402 creates the master file 408 from the consumer summary file 404 and consumer transaction file 406 by the following process: a) Verify minimum data requirements. **The DPM 402 determines the number of data files it is handling (since there maybe many physical media sources), and the length of the files to determine the number of accounts and transactions.** Preferably, a minimum of 12 months of transactions for a minimum of 2 million accounts is used to provide fully robust models of merchants and segments. However, there is no formal lower bound to the amount of data on which system 400 may operate. b) Data cleaning. The DPM 402 verifies valid data fields, and discards invalid records. Invalid records are records that are missing the any of the required fields for the customer summary file of the transaction file. The DPM 402 also indicates missing values for fields that have corrupt or missing data and are optional. Duplicate transactions are eliminated using account ID, account number, transaction code, transaction amount, date, and merchant description as a key. c) Sort and merge files. The consumer

summary file 404 and the consumer transaction file 406 are both sorted by account ID; the consumer transaction file 406 is further sorted by transaction date. Additional sorting of the transaction file, for example on **time, type of transaction, merchant zip code**, may be applied to further influence the determination of merchant co-occurrence. **The sorted files are merged into the master file 408, with one record per account, as described above.** (Lazarus, 19:63-20:25)

Merchant segments may be created that represent the merchant and associated

consumers with regards to industry, sub-industry, demographics, and geography.

Each merchant segment is associated with a merchant segment vector 105, preferably the centroid of the merchant cluster. Based on the types of merchants in the merchant segment, and the consumers who have purchased in the segment, a segment name can be defined, and may express the industry, sub-industry, **geography**, and/or consumer demographics.

The merchant segments provide very useful information about the consumers. In FIG. 1b there is shown the consumer vectors 106 for consumers C1 and C2. Each consumer's vector is a summary vector of the merchants at which the consumer shops. **This summary is preferably the vector sum of merchant vectors at which the consumer has shopped at in defined recent time interval.** The vector sum can be weighted by the recency of the purchases, their dollar amount, or other factors. (Lazarus, 10:30-45)

Major categories 202 describe how the customers in a merchant segment typically use their accounts. **Uses include retail purchases, direct marketing purchases, and where this type cannot be determined, then other major categories, such as travel uses, educational uses, services, and the like.** Minor categories 204 describe both a subtype of the major category (e.g. subscriptions being a subtype of direct marketing) or the products or services purchased in the transactions (e.g. housewares, sporting goods, furniture) commonly purchased in the segment. Demographics information 206 uses account data from the consumers who frequent this segment to describe the most frequent or average demographic features, such as age range or gender, of the consumers. **Geographic information 208 uses the account data to describe the most common geographic location of transactions in the segment**. In each portion of the segment description 210 one or more descriptors may be used (i.e. multiple major, minor, demographic, or

geographic descriptors). **This naming convention is much more powerful and fine-grained than conventional SIC classifications, and provides insights into not just the industries of different merchants (as in SIC) but more importantly, into the geographic, approximate age or gender, and lifestyle choices of consumers in each segment.**
(Lazarus, 11:14-36)

Lazarus uses a method of aligning and segmenting data represented as segmentation vectors which can be used to define clusters of merchant segments. For each consumer, a membership function is defined which defines consumer clustering as defined by any chosen parameter. In particular, demographic parameters may be chosen, such as income, age, gender and geographic location to define clusters of merchants with consumers that are most likely to purchase or spend in an area where a particular merchant is located.

> For each consumer, a membership function may be defined which describes how strongly the consumer is associated with each merchant segment. (Preferably, the membership function outputs a membership value for each merchant segment.) The membership function may be the predicted future spending in each merchant segment, or it may be a function of the consumer vector for the consumer and a merchant segment vector (e.g. centroid of each merchant segment). The membership function can be weighted by the amount spent by the consumer in each merchant segment, or other factors. **Given the membership function, the merchant clusters for which the consumer has the highest membership values are of particular interest: they are the clusters in which the consumer will spend the most money in the future, or whose spending habits are most similar to the merchants in the cluster. This allows very specific and accurate targeting of promotions, advertising and the like to these consumers.** A financial institution using the predicted spending information can direct promotional offers to consumers who are predicted to spend heavily in a merchant segment, with the promotional offers associated with merchants in the merchant segment. (Lazarus, 5:32-53)

The technique used by Lazarus is derived from a 1990 paper by Kohonen and illustrated in Figure 11B of Lazarus (Lazarus, figure 11B; 15:33-16:11). This algorithm is

a recursive algorithm since recursion, in mathematics and computer science, is a

method of defining functions in which the function being defined is applied within its own

definition. As shown below, the segment vectors are labeled by the user according to

desired segmentation variables and then aligned using this method. The equation has a

vector value that depends on its previous value and a parametric matrix. The method in

more detail is described as:

> FIG. 11B depicts an adjustment that may be performed on the segment
> vector SV2 that is closest to the merchant vector MV. Segment vector SV2
> is moved away from MV, so as to reflect the fact that MV was not
> assigned to SV2 **FIG. 11C depicts another adjustment that may be**
> **performed; in this figure, segment vector SV1 is moved closer to MV,**
> **so as to reflect the fact that MV was assigned to SV1**. In an alternative
> embodiment, both adjustments depicted in FIGS. 11B and 11C may be
> performed.

> The degree and direction of adjustment may be determined by any
> desired means. For example, **as described in Kohonen (1990),**
> adjustment of SV2 as shown in FIG. 11B may be described as

> $$SV2(t+1)=SV2(t) \pm (t)[MV(t)-SV2(t)]$$

> where $0<\_(t)<1$, and _ is decreasing monotonically with time (e.g. linearly,
> starting from a small value like 0.01 or 0.02).

> Meanwhile, adjustment of SV1 as shown in FIG. 11C may be described as

> $$SV1(t+1)=SV1(t) \pm (t)[MV(t)-SV1(t)]$$

> where $0<\_(t)<1$, and _ is decreasing monotonically with time (e.g. linearly,
> starting from a small value like 0.01 or 0.02).

> If, in 1006, the selected segment does correspond to the segment label
> that has been assigned to the merchant, zero or more segment vectors
> are adjusted 1008. Either the segment vectors are left unchanged, or in an
> alternative embodiment, the assigned segment vector is moved closer to
> the merchant vector.

> Referring to FIGS. 12A through 12C, there is shown an example of a

segment vector adjustment that may be performed when the selected segment does correspond to the segment label assigned to the merchant. FIG. 12A depicts a starting position for a merchant vector MV and three segment vectors SV1, SV2, and SV3. MV is assumed to have been manually assigned to segment 1, corresponding to segment vector SV1. It can be seen from the starting positions shown in FIG. 12A that the segment vector closest to merchant vector MV is SV1 which does correspond to the assigned segment. **Accordingly, either the vectors are left unchanged as shown in FIG. 12B, or, as shown in FIG. 12C, segment vector SV1 is moved closer to MV, so as to reflect the fact that MV was correctly assigned to SV1.**

The degree and direction of adjustment may be determined by any desired means. For example, as described in Kohonen (1990), adjustment of SV1 as shown in FIG. 12C may be described as

$$SV1(t+1)=SV1(t) \pm (t)[MV(t)-SV1(t)]$$

where $0<\_(t)<1$, and $\_$ is decreasing monotonically with time (e.g. linearly, starting from a small value like 0.01 or 0.02). (Lazarus, 15:32-16:11)

All equations shown above are recursive and as such satisfy the requirement of

independent claims 1, 10, and 19 as presented by the Applicant.

The second argument presented by the Applicant is that the combination of

Lazarus and Johnson et al, (**US 6,067,525**, hereinafter Johnson) does not yield

predictable results. The Examiner respectfully disagrees. Johnson provides a

completely integrated sales force management system which has both lead generation

capabilities as well as sales force management capabilities (Johnson, 3:51-4:63; figure

1, block 102). A fundamental process for any sales agent is to constantly develop new

leads to continue to generate revenue. Figure 21A, component 1 of Johnson shows also

that there is a direct mail component coupled to the lead generation unit. Lazarus also

has a direct mail generating feature that uses the marketing recommendations

generated by the segmentation and consumer clustering algorithms. Lazarus

establishes the most likely populations of consumers to respond to a marketing

campaign, which can be targeted by the user or institution with the targeting engine

provided by Lazarus.

> **The targeting engine 422 allows the financial institution to specify**
> **targeted populations for each (or any) merchant segment, to enable**
> **selection of the targeted population for receiving predetermined**
> **promotional offers.**
>
> A financial institution can specify a targeted population for a segment by
> specifying a population count for the segment, for example, the top 1000
> accounts holders, or the top 10% account holders in a segment. The
> selection is made by any of the membership functions, including dot
> product, or predicted spending. Other targeting specifications may be
> used in conjunction with these criteria, such as a minimum spending
> amount in the segment, such as $100. The parameters for selecting the
> targeting population are defined in a target specification document 424,
> which is an input to the targeting engine 422. **One or more promotions**
> **can be specifically associated with certain merchants in a segment,**
> **such as the merchants with the highest correlation with the segment**
> **vector, highest average transaction amount, or other selective**
> **criteria.** In addition, the amounts offered in the promotions can be specific
> to each consumer selected, and based on their predicted or historical
> spending in the segment. The amounts may also be dependent on the
> specific merchant for whom a promotion is offered, as a function of the
> merchant's contributions to purchases in the segment, such as based
> upon their dollar bandwidth, average transaction amount, or the like.
> (Lazarus, 43:8-33)

It would have been obvious to one of ordinary skill in the art at the time of the

invention to add the capabilities of the sales force management system of Johnson to

the segmentation procedure of Lazarus in order to provide an enhanced system for

sales force management, and one of ordinary skill in the art would have recognized that

the results of the combination were predictable.

Finally, the Examiner acknowledges the typographical error in the first non-final

office action regarding the rejection of system claims 10 and 15-18. These claims do not

recite means plus function elements and this typographical error will be corrected in the rejection of these claims in this final office action.

Applicant is advised to address the 35 USC § 112 rejections for the newly submitted claims 19-23. The claim rejections as summarized above will now be detailed below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 19, this claim recites a computer device which comprises "a computer usable medium having computer readable program code". This claim of a device appears as an apparatus claim, which mainly comprises a computer readable medium which is a product or an article of manufacture. It is not clear if an apparatus or article of manufacture or both are being claimed by this recitation. As such, this recitation is confusing and should be corrected to clarify the claimed subject matter.

As to claims 20-23, these dependent claims do not cure the deficiencies of claim 19 and as such are rejected on the same grounds.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1, 6-10, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus in view of Johnson.

As to claim 1 (Currently Amended) Lazarus discloses a method for operating a computing apparatus configured to measuring performance discrepancies among sales territories, comprising invoking one or more computer processors configured with instructions from one or more software modules to measure performance discrepancies among merchant segments (sales territories), the one or more computer processors performing the steps of:

(a) maintaining a market data in a database (Lazarus, column 19, line 63 to column 20, line 33);

(b) summarizing at least a portion of said market data according to one or more different merchant segments (Lazarus, column 38, line 29 to column 39, line 38, in this instance sales territories can be seen as suggested by reporting the different merchant segments in different geographical locations or territories associated with the market data as defined by user input parameters);

(c) performing a recursive partitioning analysis on said summarized market data to thereby partition said summarized market data into a plurality of nodes (represented as market segments) which for identifying significant segmentation variables (Lazarus, column 15, lines 33-49);

(d) bridging said portion of said market data with each one or more of said plurality of nodes (segments) to provide a bridged plurality of nodes (Lazarus, Table 3 and column 19, lines 17-56 and column 32, lines 1-24); and

(e) retaining an association between said at least a portion of said market data and each bridged plurality of nodes as an additional segmentation variable (Lazarus, column 32, line 26 to column 33, line 3).

Lazarus does not teach organizing his data around particular sales agent territories.

Johnson teaches a computerized sales force automation system designed to organize and forecast sales data for agents by individual sales territories, wherein the system

(a) maintains a market data in a database (Johnson, figures 21A-21D; column19, lines 36-60);

(b) summarizes at least a portion of said market data according to one or more sales territories selected from a market sales territory associated with the market data, thereby providing summarized market data (Johnson, column 6, line 64 to column 7, line 14, column 20, lines 8-29, and column 21, lines 29-51).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the ability to view market data by sales agent territories from Johnson to the segmentation procedure of Lazarus in order to provide multiple views of sales market data and forecasts in a particular segment or territory.

As to claim 6, (Original) Lazarus discloses the invention substantially as claimed. See the discussion of claim 1. Lazarus teaches a method further comprising the step of monitoring sales performance (Lazarus, column 38, lines 29-46) and updating the market data (Lazarus, column 38, lines 1-27).

As to claim 7, (Original) Lazarus discloses the invention substantially as claimed. See the discussion of claim 6. Lazarus teaches a method further comprising the step of tracking sales performance (Lazarus, column 38, line 47 to column 39, line 38) and tracking the results of the partitioning step (Lazarus, column 39, line 40 to column 40, line 25).

As to claim 8, (Original) Lazarus discloses the invention substantially as claimed. See the discussion of claim 1. Lazarus teaches a method further comprising the step establishing a model for analysis (Lazarus, column 35, line 61 to column 36, line 55).

As to claim 9, (Original) Lazarus discloses the invention substantially as claimed. See the discussion of claim 8. Lazarus teaches a method further comprising the steps of

(i) defining a relevant market (Lazarus, column 37, lines 12-67);

(ii) identifying relevant factors of the relevant market (Lazarus, column 38, line 47 to column 39, line 38);

(iii) collecting market and sales data associated with the relevant factors (Lazarus, column 38, lines 1-28) and segmenting and sizing a market territory described by the market and sales data according to the relevant market (Lazarus, column 43, line 8;to column 44, line 24).

System claims 10, 15-18 repeat the subject matter of claims 1 and 6-9 respectively in a series of equivalent steps. Lazarus and Johnson disclose the invention substantially as claimed including the disclosure of a computer system (Lazarus, claim

15). As the underlying process has been shown to be fully disclosed by the teachings of Lazarus and Johnson in the above rejections of claims 1 and 6-9 respectively, it is readily apparent that both the Lazarus and Johnson references include a system to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 1 and 6-9 respectively and are incorporated herein.

   As to device claim 19, this claim repeats the subject matter of claim 1 in a series of equivalent steps for a computer readable medium. Lazarus and Johnson disclose the invention substantially as claimed including the disclosure of a computer readable medium (Lazarus, claim 16). As the underlying process has been shown to be fully disclosed by the teachings of Lazarus and Johnson in the above rejection of claim 1, it is readily apparent that both the Lazarus and Johnson references include a device or computer medium to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claim 1 and are incorporated herein.

Claims 2-5 and 11-14 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazarus in view of Johnson and Pednault et al, METHOD FOR CONSTRUCTING SEGMENTATION-BASED PREDICTIVE MODELS, (US 2003/0176931 A1, hereinafter Pednault).

As to claim 2, see the discussion of claim 1. Lazarus teaches a recursive partitioning analysis (Lazarus, column 15, lines 33 to 49).

Neither Lazarus nor Johnson teaches displaying the plurality of nodes (segments) in a node tree with associated non-partitioned data in the database.

Pednault teaches displaying the plurality of segment nodes in a node tree with associated non-partitioned data in the database (Pednault, Figure 1, and paragraphs 32-35, 248-249).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the ability of displaying nodes in a tree from Pednault to the methods of Lazarus and Johnson in order to present a clearer visual presentation of market segmentation.

As to claim 3, see the discussion of claim 1. Lazarus teaches a recursive partitioning analysis (Lazarus, columns 12-16).

Neither Lazarus nor Johnson teaches including the step of utilizing an exhaustive Chi-squared automatic interactive detector.

Pednault teaches the step of performing a recursive partitioning analysis wherein the analysis includes the step of utilizing an exhaustive Chi-squared automatic interactive detector (Pednault, paragraphs 250-252).

It would have been obvious to one of ordinary skill in the art at the time of the invention to add an exhaustive Chi-squared interactive detector from Pednault to the partitioning algorithms of Lazarus and the method of Johnson in order to obtain a more robust segmentation of market data.

As to claim 4, Lazarus discloses the invention substantially as claimed. See the discussion of claim 1. Lazarus teaches a method further comprising the step of entering at least one additional segmentation variable based on the associated non-partitioned data (Lazarus, column 34, line 28 to column 35, line 59).

As to claim 5, Lazarus discloses the invention substantially as claimed. See the discussion of claim 1. Lazarus teaches a method further comprising the step of performing an additional partitioning analysis of the summarized market data wherein the summarized market data is partitioned into an additional plurality of nodes (Lazarus, column 12, line 23 to column 16, line 64).

System claims 11-14 repeat the subject matter of claims 2-5 respectively in a series of equivalent steps. Lazarus, Johnson and Pednault disclose the invention substantially as claimed including the disclosure of a computer system (Lazarus, claim 15). As the underlying process has been shown to be fully disclosed by the teachings of Lazarus, Johnson, and Pednault in the above rejections of claims 2-5 respectively, it is readily apparent that the Lazarus, Johnson, and Pednault references include a system to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 2-5 respectively and are incorporated herein.

As to device claims 20-23, see the discussion of claim 19. These claims repeat

the subject matter of claims 2-5 respectively in a series of equivalent steps. Lazarus, Pednault and Johnson disclose the invention substantially as claimed including the disclosure of a computer readable medium (Lazarus, claim 16). As the underlying process has been shown to be fully disclosed by the teachings of Lazarus, Johnson, and Pednault in the above rejections of claims 2-5 respectively, it is readily apparent that the Lazarus Johnson, and Pednault references include a device or computer medium to perform the recited functions. As such, these limitations are rejected for the same reasons provided in the rejection of claims 2-5 respectively and are incorporated herein.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

Paul B. Chou et al **(US 6061658 A)** Prospective customer selection using customer and market reference data.

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN ZELANO whose telephone number is (571) 270-7047. The examiner can normally be reached on Monday through Friday, 7:30AMo0 to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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